

Circulars, From December 20, 1878, to May 23, 1879

B. 2. GARDINER G. HUBBARD, President. ALEX. GRAHAM BELL, Electrician. THOMAS SANDERS, Treasurer. BELL TELEPHONE COMPANY, THEO. N. VAIL, General Manager. 66 & 68 Reade Street. THOS. A. WATSON, General Superintendent. P. O. BOX 150. New York, Dec. 20, 1878.

NATIONAL TELEPHONE EXCHANGE, 1413 G STREET, WASHINGTON D. C.

We take pleasure in announcing to our agents, customers, and to the public, that we are now ready to furnish a battery-transmitting Telephone, in addition to, and to use in connection with our ordinary Magneto Telephone.

In the Magneto Telephone, the sound waves are thrown against, and vibrate, a diaphragm which acts as the armature of a permanent magnet, and disturbing its magnetic field, produces in the helix, or coil, surrounding the magnet, undulatory currents of electricity, which are conveyed over the line, and corresponds to and reproduces the articulation in the Receiving Telephone. Any Magneto Telephone can be used either as transmitter or receiver.

In the battery-transmitting Telephone, a voltaic current is passed through conductors which are connected to the diaphragm. These conductors offer a certain resistance to the current, and are so arranged that the vibrations of the diaphragm caused by the sound waves vary this resistance with every wave, thus producing undulations in the current which correspond to and reproduce the articulation. This however requires a Magneto Telephone as receiver.

The battery-transmitter acts more powerfully, for the reason that voltaic electricity is a force much stronger than the magneto electric current when ordinarily produced by the

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Telephone, and on that account the faintest articulation can be transmitted with the utmost distinctness.

It is not probable, however, that the battery-transmitter will take the place of the Magneto Telephone, for the latter is simple in its construction, durable and reliable under all circumstances, can be used for both transmitting and receiving, costs nothing to maintain, is sufficiently loud and distinct, and will probably be the most popular instrument for general use.

The battery Telephone, though possessing the advantage of louder articulation, and not being liable to get out of order under ordinary circumstances, is more delicate and complicated in its construction, requires the maintenance of a battery in connection with it, the attention occasionally of an electrical expert, and can only be used as a transmitter, thus requiring a Magneto Telephone as a receiver. It will be used principally in the large cities where the induced currents from telegraph or other wires interfere materially with the weaker currents of the Magneto Telephone, also in the transmission of messages over long distances, or where, for special reasons greater volume of sound is necessary to be obtained.

Very respectfully, THEO. N. VAIL, *General Manager*.

B 32 79. TO THE PUBLIC.

The National Bell Telephone Company, under patents granted to Alexander Graham Bell, claims the exclusive right to use, or to license others to use, speaking telephones.

The introduction of the Bell telephone has been pushed energetically forward from the first moment that the invention was perfected, and no rival claimant appeared until the great commercial value of the invention had been practically demonstrated by the owners of the Bell patents.

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The statement of Mr. Elisha Gray, that Prof. Bell is the first inventor of the speaking telephone, and the first man who made a speaking telephone, has been confirmed by all the scientific bodies who have examined the question.

Suits are pending, and more will undoubtedly be brought, in which the claims of the owners of the Bell patents and the owners of the inventions of Gray, Edison, Dolbear, and others will be legally determined.

Meantime, the Company will protect its customers in the use of telephones rented by it, against any proceedings which may be brought against them for infringement, by assuming, upon notice and request of such customers, the defence of such proceedings, and all expenses incident thereto.

THEO. N. VAIL, *General Manager*.

Executive Offices National Bell Telephone Co., Boston, May 23, 1879. [OVER

WHO INVENTED THE SPEAKING TELEPHONE?

At the time when Prof. Bell exhibited his speaking telephone at the Centennial, to the judges, no man had ever constructed an apparatus by which he had transmitted, or by which he thought that he was able to transmit, articulate speech. Upon this exhibition, the judges, in two reports, drawn by Prof. Henry, of the Smithsonian Institute, and by Sir William Thomson, reported Prof. Bell as the inventor of the speaking telephone. Mr. Gray was present personally at that exhibition, and personally used the instrument. Eight months after that, he wrote a letter to Prof. Bell, declaring that Bell was the inventor of the speaking telephone.

The attempts of Mr. Edison and Mr. Dolbear to construct speaking telephones, first began after they had seen or known of this exhibition and report, and their whole claims relate to improvements in the speaking telephone, and the position of such claims, as compared

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with those of the first inventor of the first speaking telephone, are stated in a recent decision of the Commissioner of Patents, after a hearing in which all these parties were represented by counsel.

Our opponents, failing in their attempts to find a speaking telephone in existence before those constructed by Prof. Bell, sought, and, upon *ex-parte* application obtained, a reissue of an old patent of Mr. Gray, of 1875. It is not pretended either in this reissue, or in the original on which it is based, that it is, or describes, or that the inventor, at the time it was taken out, had ever constructed a speaking telephone, and the words telephone or speaking telephone, are not found in either.

There is no claim that the apparatus described could be used for transmitting speech. It never has been, and never will be used for that purpose.

It is enough to say that the written statement of Mr. Gray, that Prof. Bell was the inventor of the speaking telephone, was made eighteen months after the issue of his original patent.

Attention is called to the following extracts and statements which corroborate the foregoing:—

EXTRACT FROM DECISION OF H. E. PAINE, COMMISSIONER OF PATENTS.

“He who first discovered the capacity of electricity as a vehicle for the transmission of the quality as well as the pitch and strength of the human voice, and first devised a practical method for the variation of an electric current in a circuit, by means of the sound-vibrations caused by articulate speech, and for reproducing the same sound-vibrations at a remote point of the circuit, thereby delivering at that point the same words, with their pitch, strength, and quality unchanged, and also devised means for carrying out this method, is entitled to protection, as against all subsequent inventors, both for his method and for his particular means.

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“A subsequent inventor who discovers the same principle, and devises the same method, and invents different means for accomplishing the several steps in the method, will take his patent for his means, as for improvements, subject to the paramount patent of the first inventor.”— *Decision Commissioner of Patents, in Bell vs. Gray et al., decided March 6, 1879.*

PROOF OF PROF. BELL'S PRIORITY.

“Prof. Bell conceived, as early as 1874, and has since constructed, an apparatus by which the sound of the human voice can be reproduced at the receiving end of a telegraph line with some degree of distinctness.”— *Electricity and Electric Telegraph, by George B. Prescott, Electrician Western Union Telegraph Co., page 881, edition of 1877.*

“Prof. Bell, in his investigation, has gone a step beyond composite tones, although they were embraced in it, and developed the transmission of vocal sounds.”— *Gray's Lecture, Chicago, Feb. 27, 1877.*

“I do not, however, claim even the credit of inventing it, as I do not believe a mere description of an idea that has never been reduced to practice in the strict sense of that phrase should be dignified with the name invention.”— *Mr. Elisha Gray's Letter to Prof. Bell, March 5, 1877.*

“Mr. Alexander Graham Bell exhibits apparatus by which he has achieved a result of transcendent scientific interest,—the transmission of spoken words by electric currents through a telegraph wire. This, perhaps the greatest marvel hitherto achieved by the electric telegraph, has been obtained by appliances of quite a homespun and rudimentary character. With somewhat more advanced plans, and more powerful apparatus, we may confidently expect that Mr. Bell will give us the means of making voice and spoken words audible through the electric wire to an ear hundreds of miles distant.”— *Report of Sir William Thomson, Judge at Centennial Exhibition.*

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Mr. Elisha Gray was present at several trials of the apparatus of Prof. Bell, referred to, and has since testified that it was the first time he had ever heard articulate speech transmitted over an electric circuit.

F. L. Pope, Electrician of the Western Union Telegraph Company, visited Boston for the purpose of investigating the speaking telephone of Prof. Bell, during the summer of 1877, tested it, and has since testified he had never before heard articulate speech transmitted over a wire by means of electricity.

“I can, however, lay no claim to having discovered that conversation could be carried on between one receiver and the other, upon the magneto principle, by causing the voice to vibrate the diaphragm.”— *T. A. Edison, Prescott's Electricity and Electric Telegraph, page 222.*